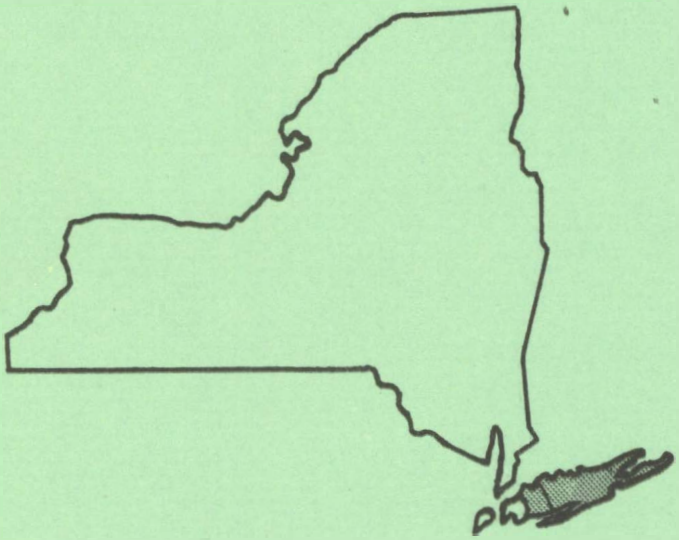
Forest Statistics for

NEW YORK

Forest District No. 15



Forest Statistics Series:
New York No. 15

Northeastern Forest Experiment Station

Upper Darby, Pennsylvania
Ralph W. Marquis, Director

1954

United States Department of Agriculture • Forest Service

FOREWORD

This is the fifteenth in a series of reports about forest areas and timber volumes in the State of New York. These reports are products of the forest survey of the Northeast, carried on by the Northeastern Forest Experiment Station as part of the nationwide forest survey being made by the Forest Service, U. S. Department of Agriculture.

A similar report has been prepared for each of the other forest districts in the State of New York. The primary purpose of these reports is to provide basic forest statistics for the administrative use of the New York Department of Conservation.

The New York Department of Conservation aided the Northeastern Station greatly in the forest survey of the State. The Department not only provided the aerial photographs used in the survey, but also cooperated in many other phases of the work.

Field work in Forest District No. 15 was supervised by N. B. Griswold. The statistical procedures for obtaining field-inventory data were developed by C. Allen Bickford. Computations were made under the supervision of Roland H. Ferguson.

Ralph W. Marquis

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Director

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FOREST STATISTICS FOR NEW YORK FOREST DISTRICT NO. 15

Prepared by

Division of Forest Economics

Northeastern Forest Experiment Station
Forest Service, U.S. Dept. Agriculture

GENERAL

Forest District No. 15 includes only Nassau and Suffolk Counties. These counties make up most of Long Island.

The topography varies from large areas of level or slightly sloping land to smaller areas of moderately rolling ridges. These ridges run east and west, generally through the center of the District. They are also found along the north shore of Suffolk County.

The eastern part of the District is dominantly agricultural. The land is farmed intensively for potatoes and other vegetables. Irrigation is a common practice in this area. The central portion is the most heavily forested. The western part is the metropolitan and industrial area.

Since this District is small so far as the acreage of commercial forest land is concerned, it is not possible to show detailed estimates such as were given for the other districts.

Forest Area

This District has a total land area of about 782,000 acres. The forest-land area is slightly more than 334,000 acres.

There are nearly 11,000 acres of forest land reserved from timber cutting. The area of nonproductive forest land is negligible. The remaining 323,000 acres are classed as commercial forest land. Of this, 92 percent is in Suffolk County.

Ownership

About 98 percent of the commercial forest land is privately owned. Farmers own a little less than one-tenth of this. Only 2 percent is in public ownership. About one-fourth is owned by the State of New York and the remainder is held by the Federal Government. There are no county or municipal ownerships.

Forest Types

The red oak type occupies more than one-half of the commercial forest land and is usually found on the better sites. Other hardwood types, principally oak-hard pine and white oak, occur on less than one-fifth of the forest land. These types are generally intermingled with the other forest types.

The only softwood types are hard pine and hard-pine oak. They are most common on the drier sites in southeastern Suffolk County.

Forest Stands

Sawtimber stands are present on only 13 percent of the commercial forest land. The heavier stands--of more than 5,000 board feet per acre--occupy a little more than 1 percent of the area but bear about one-eighth of the total board foot volume.

Poletimber stands are present on 26 percent of the forest area. Seedling-and-sapling stands are present on 61 percent--196,900 acres. These stands carry only 14 percent of the growing stock.

Timber Volume

The commercial forests contain 209.6 million board feet (log scale, International $\frac{1}{4}$-inch rule) of live sawtimber. More than three-fourths of this volume is in hardwoods; and red oaks alone account for 57 percent. Pitch pine, which makes up nearly all of the softwood sawtimber volume, accounts for 21 percent of the total board-foot volume.

The growing stock amounts to 104.8 million cubic feet. Of this, 44.9 million cubic feet are in sawtimber trees and 59.9 million in poletimber trees. The total cubic volume is equivalent to 1.3 million rough standard cords.

A considerable portion of the timber volume is probably on private estates, where it may not be readily available for commercial use.

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Table 1.--Land area by major classes, 1950

Class of land[1]	Area	
	Acres	Percent
Forest land:		
Commercial	323,200	41
Noncommercial[2]	11,100	2
All forest land	334,300	43
Nonforest land	447,800	57
All land[3]	782,100	100

[1] See Appendix for definitions.

[2] Includes 10,328 acres in State parks and parkways reserved from timber cutting. Also includes 370 acres of nonproductive forest land in State parks. All State ownership figures are as of September 30, 1952.

[3] Census of Agriculture, 1950. Water areas of 1 to 40 acres are included in the estimate of nonforest acreage.

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Table 2.--Land area and commercial forest-land area by county, 1950

County	Land area	Commercial forest-land area	
	Acres	Acres	Percent
Nassau	192,000	26,800	14
Suffolk	590,100	296,400	50
All	782,100	323,200	41

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Table 3.--Commercial forest-land area by ownership, 1950

Ownership class	Acreage held	
	Acres	Percent
Private:		
Farm forest land[1]	27,600	9
Other private	288,200	89
Total private	315,800	98
Public:		
Federal	5,700	2
State	1,700	(2/)
Total public	7,400	2
All ownerships	323,200	100

[1]Census of Agriculture, 1950.

[2]Less than 1 percent.

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Table 4.--Commercial forest-land area by forest type, 1950

Forest type	Area	
	Acres	Percent
Hard pine types	88,200	28
Red oak	176,700	54
Other hardwood types	58,300	18
All types	323,200	100

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Table 5.--Commercial forest-land area by forest-type group and stand-size class, 1950

Forest-type group	Saw-timber stands	Pole-timber stands	Seedling-and-sapling stands	Total area
	Acres	Acres	Acres	Acres
Red oak	27,100	53,800	95,800	176,700
Other types	13,800	31,600	101,100	146,500
All types	40,900	85,400	196,900	323,200
Percent	13	26	61	100

Table 6.--Net volume of live timber on commercial forest land by species, 1950

Species	Growing stock[1]		Saw-timber[2]
	Thousand cu.ft.	Equivalent in cords	Thousand bd.ft.
Pitch pine	21,900	273,700	44,600
Other softwoods	1,800	22,500	3,000
All softwoods	23,700	296,200	47,600
Red oaks	56,500	706,300	118,800
White oak	11,500	143,800	19,500
Hickory	4,100	51,200	12,500
Black locust	2,800	35,000	10,600
Other hardwoods	6,200	77,500	600
All hardwoods	81,100	1,013,800	162,000
All species[3]	104,800	1,310,000	209,600

[1]Includes sawtimber. Cord equivalent in rough standard cords is assumed to average 80 cubic feet of peeled wood.

[2]Log scale, International $\frac{1}{4}$-inch rule.

[3]Excludes the net volume of cull trees--2,300,000 cubic feet.

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Table 7.--Net volume of live timber on commercial forest land by diameter class, 1950

Diameter class[1] (in inches at breast height)	Growing stock	Saw-timber
	Thousand cu. ft.	Thousand bd. ft.
Softwoods:		
6 and 8	11,700	--
10 and 12	7,600	26,600
14 and more	4,400	21,000
All softwoods	23,700	47,600
Hardwoods:		
6	20,400	--
8	16,100	--
10	11,700	--
12 and 14	11,600	48,800
16 and 18	12,900	65,900
20 and more	8,400	47,300
All hardwoods	81,100	162,000
Total	104,800	209,600

[1] The midpoint of each 2-inch diameter class is indicated.

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Table 8.--Net volume of live timber on commercial forest land by forest type, 1950

Forest type	Growing stock		Saw-timber
	Thousand cu.ft.	Equivalent in cords	Thousand bd.ft.
Hard pine types	22,200	277,600	46,100
Red oak	74,500	931,200	150,300
Other hardwood types	8,100	101,200	13,200
All types	104,800	1,310,000	209,600

Table 9.--Average net volume in live timber per acre of commercial forest land, by stand-size class, 1950

Stand-size class (and acreage of each class)	Growing stock	Sawtimber
	Cubic feet	Board feet
Sawtimber stands (40,900 acres)	1,100	4,200
Poletimber stands (85,400 acres)	500	300
Other[1] (196,900 acres)	70	70
Average, all classes[2] (323,200 acres)	300	600

[1]Seedling-and-sapling stands.

[2]Hardwoods constitute 77 percent of the total volume. The average cubic volume in all stand-size classes is equivalent to 4 cords per acre.

APPENDIX

DEFINITIONS OF TERMS

Forest Areas

Forest-land area.--Includes (a) lands that are at least 10 percent stocked by trees of any size and capable of producing timber or other wood products, or of exerting influence on the climate or on the water regime; (b) land from which the trees described in (a) have been removed to less than 10 percent stocking and which has not been developed for other use; and (c) afforested areas. (Forest tracts of less than 1 acre, isolated strips of timber less than 120 feet wide, and abandoned fields and pastures not yet 10 percent stocked are excluded.)

Commercial forest-land area.--Forest land that is (a) producing, or physically capable of producing, usable crops of wood (usually sawtimber), (b) economically available now or prospectively, and (c) not withdrawn from timber utilization.

Noncommercial forest-land area.--Forest land (a) withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as commercial forest land, and (b) incapable of yielding usable wood products (usually sawtimber) because of adverse site conditions.

Forest Types

Forest types are classified according to the species or species group that accounts for the major portion of the stand in terms of cubic feet in sawtimber and poletimber stands, or the number of stems in seedling-and-sapling stands.

Stand-Size Classes

Sawtimber stands.--Stands with sawtimber trees having a minimum net volume per acre of 1,500 board feet, International $\frac{1}{4}$-inch rule.

Poletimber stands.--Stands failing to meet the sawtimber stand specification, but at least 10 percent stocked with poletimber and larger (5.0 inches and larger) trees, and with at least half the minimum stocking in poletimber trees. (Poletimber stands carry at least 200 cubic feet per acre.)

Seedling-and-sapling stands.--Stands not qualifying as either sawtimber or poletimber stands, but having at least 10 percent stocking of trees of commercial species and with at least half the minimum stocking in seedling-and-sapling trees.

Other areas.--Forest-land areas not qualifying as sawtimber, poletimber, or seedling-and-sapling stands. (Includes nonstocked areas.)

Tree Classes

Sawtimber trees.--Trees of commercial species that contain at least one merchantable sawlog as defined by regional practice and that are of the following minimum diameters at breast height (d.b.h.): Softwoods 9.0 inches and hardwoods 11.0 inches. (All butt sawlogs are considered merchantable. Where the butt is defective, upper sawlogs are considered merchantable if they account--in terms of aggregate net volume--for 50 percent or more of the gross volume below the top of the uppermost sawlog. Softwood sawlogs are at least 6.0 inches in diameter inside bark at small end; 8 to 16 feet in length; sound and straight enough to be manufactured into standard lumber. The smaller logs are generally free of surface defects other than small tight knots. Hardwood sawlogs are at least 8.0 inches in diameter inside bark at small end; 8 to 16 feet in length; suitable for sawing into standard lumber, construction timbers, or ties.)

Poletimber trees.--Trees 5.0 inches d.b.h. and larger of commercial species that do not meet the specifications for sawtimber trees but do meet regional specifications of species, soundness, and freedom from defect. (These are the trees that are straight and clear enough to make sawtimber trees eventually.)

Seedling-and-sapling trees.--Trees of commercial species less than 5.0 inches in diameter at breast height.

Cull trees.--Live trees of sawtimber or poletimber size that are unmerchantable for sawlogs now or prospectively because of defect, rot, or species.

Timber Volume

Growing stock.--Net volume, in cubic feet, of live sawtimber trees and live poletimber trees from stump to a minimum 4.0-inch top (of central stem) inside bark.

This volume is also given in rough standard cords (bark included). Cord volume is derived from growing stock by applying a factor of 80 cubic feet per cord.

Live sawtimber volume.--Net volume in board feet, International $\frac{1}{4}$-inch rule, of live sawtimber trees.

FOREST-SURVEY METHODS

These forest statistics are based on information gathered from aerial photographs and from sample plots examined on the ground.

First, photo-interpretation plots were marked off on the aerial photographs. These plots were distributed uniformly by mechanical means over photographs of the entire district. Trained photo-interpreters then classified each photo-plot as either forest or nonforest. Forest plots were classified further according to stand-size and forest type.

Field crews inspected some of the photo-plots on the ground. Enough plots were selected at random so as to attain a specified level of statistical accuracy. Species and volume data were collected on these ground plots; and the photo classification of stand size and forest type was verified or--if necessary--changed.

The survey was designed for maximum efficiency in estimating total cubic volume to meet the national standards of accuracy.

ACCURACY OF THE ESTIMATES

The estimates in this report may contain two kinds of error. First, photo-interpreters may make mistakes of judgment and fieldmen may make mistakes in measuring or record-

ing. There is no practical way of finding out just how often such errors occur. But they are kept to a minimum by closely checking all phases of the work.

The second kind of error is associated with sampling procedures. The size of this sampling error can be measured. In Forest District No. 15 the probabilities are 2 out of 3 that the actual forest area is within ± 3.5 percent of the estimated forest area, that the actual cubic-foot volume is within ± 12.3 percent of the estimated cubic-foot volume, and that the actual board-foot volume is within ± 25.7 percent of the estimated board-foot volume. This does not include any mistakes in measurement or classification.

These percentages show that the area estimates are more accurate than the volume estimates, and that the cubic-foot estimates are more accurate than the board-foot estimates.

In each of the tables, the total figures are more accurate than the subtotals. The subtotals are more accurate than any of the individual figures. Figures that are small in relation to totals are subject to larger sampling errors.

SPECIES TALLIED

The various commercial tree species tallied in New York Forest District No. 15 are listed below. Approved common names[1] are shown in parentheses if these differ from the brief name used in the tables. Other tree species may occur in the area, but unless they were tallied on the field plots they were not included in the following list.

Softwoods

Pitch pine	- Pinus rigida
Other softwoods	
(Eastern white pine)	- Pinus strobus
(Eastern redcedar)	- Juniperus virginiana

[1] LITTLE, ELBERT L., JR. CHECK LIST OF NATIVE AND NATURALIZED TREES OF THE UNITED STATES (INCLUDING ALASKA). U.S. DEPT. AGR. AGR. HANDB. 41. 472 PP. 1953.

Hardwoods

Red oaks (Northern red oak)	- Quercus rubra
(Black oak)	- Quercus velutina
(Scarlet oak)	- Quercus coccinea
White oak	- Quercus alba
Hickory	- Carya species
Black locust	- Robinea pseudoacacia
Other hardwoods	
(Sugar maple)	- Acer saccharum
(Red maple)	- Acer rubrum
(Chestnut oak)	- Quercus prinus
(Yellow birch)	- Betula alleghaniensis
(Beech)	- Fagus grandifolia
(Yellow-poplar)	- Liriodendron tulipifera
(Sweetgum)	- Liquidambar styraciflua
(Black cherry)	- Prunus serotina
(Elm)	- Ulmus species

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